NRC FORM 314 (02-2017) 10 CFR 30.36(j)(1); 40.42(j)(1); 70.38(j)(1);



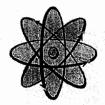
### U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0028

EXPIRES: 02/29/2020

Estimated burden per response to comply with this mandatory collection request 30 minutes. This submitted is used by NRC as part of the basis for its determination that the facility is released for unrestricted use, Send comments regarding

and 72.54(k)(5)(1)(1)	OF MATERIALS	Washington, DC 20555-0001, or by e-mail to Infocolle and Regulatory Affairs, NEOB-10202, (3150-0028),	a Collections Branch (T-5 F53), U.S. Naciear Regulatory Commission, cta.Resource@mrs.gov, and to the Deak Officer, Office of Information Office of Management and Budget, Washington, DC 20503. If a not display a currently wald OMB control number, the NRC may not spond to, the information collection.
LICENSEE NAME AND ADDRESS		LICENSE NUMBER	DOCKET NUMBER
Twin Rivers Regional Medic	al Center	24-17628	
1301 First St.		LICENSE EXPIRATION DATE	
Kennett, MO 63857			-31-2023
	A. LICENSE STATUS (Check th	e appropriate box)	
This license has expired	and the same of th		
	B. DISPOSAL OF RADIOAC appropriate boxes and complete as necessary. If a all executing this certificate on behalf of the license.	ndditional space is needed, prov	vide attachments)
	terials have ever been procured or possessed by		20
2. All activities author under this license	rized by this license have ceased, and all radioac number cited above have been disposed of in th	ctive materials procured and/o	
✓ a. Transfer of radio	pactive materials to the licensee listed below:		
Diament of multi-	agatha matariala		
b. Disposal of radio	by the licensee:		
i. Directly t	by the licensee.		
F. O. Bulliana	and attenue at officer		
☐ 2. By licens	sed disposal site:		
— <b>—</b>	[44] 2014년 - 122일		
3. By waste	contractor:		
	naterials have been removed such that any rema t E, and is ALARA.	ining residual radioactivity is v	within the limits of 10 CFR
	C. SURVEYS PERFORMED	AND REPORTED	
1. A radiation survey w	as conducted by the licensee. The survey confir	ms:	
a. the absence of l	icensed radioactive materials		
b. that any remaini	ing residual radioactivity is within the limits of 10	CFR 20, Subpart E, and is AL	ARA.
✓ 2. A copy of the radiation			
		Company of the NOC	S 2
	b. is not attached (Provide explanation); or	c. was forwarded to NRC	Date
<b>—</b>	not required as only sealed sources were ever p		
✓ a. The results of th	e latest leak test are attached; and/or	b. No leaking sources have	e ever been identified.
	ding the information provided on this form:		
NAME	TITLE	TELEPHONE (Include Area Code)	E-MAIL ADDRESS
Jason Smith	Consultant	901 488-1537	ason@msnuclearservices.com
	Bluff Regional Medical Center, 3100 Oak Grov	ve Road, Poplar Bluff, Mo 63	901, christian.
jones@poplarbluffregional.co	C. CERTIFYING OFF	FICIAL	
	ERTIFY UNDER PENALTY OF PERJURY THAT THE		
PRINTED NAME AND TITLE	SIGNATURE		DATE
Christian Jones, CEO, Twin Rive			7/2/18
SUBMISSIONS TO THE NRC BE COL	N THIS CERTIFICATE MAY BE SUBJECT TO CIVIL AND OF MPLETE AND ACCURATE IN ALL MATERIAL RESPECTATOR REPRESENTATION TO ANY DEPARTMENT OR AGENCY	8 U.S.C. SECTION 1001 MAKES IT A	CRIMINAL OFFENSE TO MAKE A



P.O. Box 446 203 Malone Road South Hernando, MS 38632 901.488-1537 fax: 662.429.2132

# SEALED SOURCE TRANSFER

June 4, 2018

TRANSFER TO:

Mid-South Nuclear Physics Services, LLC

203 Malone Road South Hernando, Mississippi

Mississippi Radioactive Materials License No. - MS-973-01

TRANSFER FROM:

Twin Rivers Regional Medical Center

1301 First Street Kennett, MO 63857

Radioactive Materials License No. - 24-17628

Nuclide	Туре	Serial Number	Activity	Calibration Date	Current Activity	Leak Test	Leak test Results
Cs-137	Vial	319-107-10	205.50 uCi	10-26-1977	80.508 uCi	5-21-18	< 0.005 uCi
Cs-137	Vial	988-39-5	200.1 uCi	8-1-2003	142.146 uCi	5-21-18	< 0.005 uCi
Co-57	Flood	1813-028	10.00 mCi	7-1-2015	0.679 mCi	5-21-18	< 0.005 uCi
Co-57	Flood	2003-120	10.00 mCi	3-1-2018	8.134 mCi	5-21-18	< 0.005 uCi
Ba-133	Vial	1218-21-0021	247.1 uCi	2-1-2007	117.219 uCi	5-21-18	< 0.005 uCi

Date of last leak test: May 21, 2018; Removable contamination less than 0.005uCi.

Leak test performed by Mid-South Nuclear Physics Services, LLC,

7/2/18

RAML: MS-973-01

Jason Smith

Mid-South Nuclear Physics Services, LLC

# RESTRICTED AREAS

**Expoure Rate Surveys** 

GM Meter Serial Number: 179798

Probe 44-2 S/N: PR237338 Calibrated: 6/27/17

Background (uR/hr) 4.00 uR/hr

Removeable Contamination Sur

MCA Serial Number: 900028

Efficiency Date: 10/11/17

Window: 50-1000 keV Efficiency: 0.88 c/d for Cc

Count time(minutes): 3.0 minute

Background(cpm): 146 cpm

MDA(dpm): 401 dpm

Exposure Rate Survey		Re	Removeable Contamination Sur				
Area on Map		Location surveyed	Area Survey 44-2	Wipe BKG (gross cpm)	Wipe (net cpm)	Wipe (dpm)	
		Floor/Wall	Results	Enter data in this column	Results are calculated in this column	Results are calculated in this column	
Background			4.00 uR/hr	159	ano opianii	Wile Column	
Hot Lab				100			
Sealed Source Storage	_ 1	Counter/Wall	2.00 uR/hr	105			
Floor	2	Floor	3.00 uR/hr	135	0	0	
Floor	3	Floor	4.00 uR/hr	135	0	0	
Floor	4	Floor	2.00 uR/hr	135	0	0	
Waste	5	Counter/Wall	3.00 uR/hr	135	0	0	
Floor	6	Floor		162	16	-18	
Floor	7	Floor	2.00 uR/hr	162	16	18	
Floor	8		3.00 uR/hr	151	5	6	
Dose Calibrator	9	Floor	4.00 uR/hr	152	6	7	
Floor	10	Counter/Wall	3.00 uR/hr	148	2	2	
Floor	11	Counter/Wall	2.00 uR/hr	148	2	2	
Floor		Counter/Wall	2.00 uR/hr	148	2	2	
Imaging Area	12	Floor	2.00 uR/hr	151	5	6	
Floor	1	Counter/Floor	4.00 uR/hr	134	0		
Floor	2	Counter/Floor	3.00 uR/hr	154	- 8	0	
Floor .	3	Counter/Floor	2.00 uR/hr	146	0	9	

Floor	4	Counter/Floor	2.00 uR/hr	151		
Floor	5	Counter/Floor	3.00 uR/hr	151	5	
Floor	6	Counter/Floor	2.00 uR/hr	133	0	
Floor	7	Counter/Floor	3.00 uR/hr	146	0	
Floor	8	Counter/Floor	2.00 uR/hr	134	0	
Floor	9	Counter/Floor	2.00 uR/hr	144	0	
Floor	10	Camera/Bed	4.00 uR/hr	133	Ô	
Floor	11	Camera/Bed	2.00 uR/hr	132	0 -	
Camera/Bed	12	Camera/Bed	4.00 uR/hr	130	0	
Floor	13	Camera/Bed		147	.1	
Floor	14	Counter/Floor	2.00 uR/hr	133	0	
Floor	15	Counter/Floor	3.00 uR/hr	139	0	(
Floor	16	Counter/Floor	2.00 uR/hr	131	0	(
Floor	17	Counter/Floor	3.00 uR/hr	141	0	(
Floor	18	Counter/Floor	3.00 uR/hr	132	± 0	(
Floor	19	Counter/Floor	2.00 uR/hr	145	0	- (
Floor	20	Camera/Bed	2.00 uR/hr	136	0	(
Floor	21	Counter/Floor	3.00 uR/hr	130	0	(
Floor	22		4.00 uR/hr	141	0	C
Collimator	23	Counter/Floor Collimator	3.00 uR/hr	139	0 :	O
Floor	24	Counter/Floor	4.00 uR/hr	130	0	Ō
Floor	25	Desk	2.00 uR/hr	129	. 0	0
Computer	26	Desk	3.00 uR/hr	132	0	0
Floor	27	Counter/Floor	4.00 uR/hr	138	0	0
Stress Area		Control/Flool	2.00 uR/hr	142	0	0
Floor	1 1	Bed	3.00 7.1			
Bed	2	ed	2.00 uR/hr	134	0	.0
Floor	3	Counter/Floor	4.00 uR/hr	145	0	0
Computer	4	Computer	4.00 uR/hr	136	0	Ó
Treadmill	5	Treadmill	3.00 uR/hr	132	0	0
Floor	6	Counter/Floor	4.00 uR/hr	139	.0	0
Computer	7		3.00 uR/hr	130	0	. 0
Floor	8	Computer Country/Ele	2.00 uR/hr	141	0	0
Floor	9	Counter/Floor	2.00 uR/hr	146	0	0
Desk	10	Counter/Floor	3.00 uR/hr	133	0	0
Floor	11	Desk	4.00 uR/hr	147	4	4
11001	1771	Desk	3.00 uR/hr	149	3	3

Floor	12	Counter/Floor	2.00 uR/hr	132	1 *** 0	0
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vey

**)-57** 

0.000181 uCi Flags Results are calculated in this column OK OK OK OK OK OK OK OK OK

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24-17628

# SEALED SOURCE LEAK TEST CERTIFICATE

Facility:

Twin Rivers Regional Medical Center

1301 First Street

Kennett, MO 63857

Date:

May 21, 2018

NEXT DUE: November 17, 2018

Sample Collection and Analasis by:

Jason Smith

**Counting Instrument** 

Multi-Channel Scaler

Detector

Mfr.:Capintec Mfr.:Capintec

Model: Captus 3000

900028

Serial No.: 30001-1222-1

Reference S	ource	100					Genai No	30001-1222-1
Radionuclide	Serial No.	Calibration Date	Activity at Calibration	Current Activity	Bkg cpm	Count Efficiency	dpm	MDA uci
Cs-137	1075-100-5	1/15/05	0.0999 uCl	0.0734 uCi	18	12.24%	165 dpm	0.00007 uCi
Co-57	1669-94-2	10/1/13	0.0935 uCi	0.0012 uCi	41	86.84%	37 dpm	0.00002 uCi
Ba-133	BM08331-002	5/15/06	1.0780 uCi	0.4721 uCi	39	17.93%	165 dpm	0.00007 uCi
Source Wipe	Data							

course wipe	Data			-81				
Radionuciide Type	Serial No.	Mfgr.	Calibration Date	Activity at Calibration Current	Bkg CPM	Measured Sample CPM	Test (u.Ci) Results	Status
Cs-137 Reference Via NES-356	319-107-10 I Source	NEN	10/26/77	205.50 uCi 80.508 uCi	18	22	0.000015	PASS
Ba-133 Reference Vial SRV-133-250L		E&Z	2/1/07	247.10 uCi 117.219 uCi	39	44	0.000003	PASS
Co-57 Flood Source SFL24R-057-1	1813-028 ОМ	IPL	7/1/15	10.00 mCi 0.679 mCi	41	53	0.000030	PASS
Co-57 Flood Source SFL24R-057-1	2003-120 OM	IPL	3/1/18	10.00 mCi 8.134 mCi	41	51	0.000025	PASS
Cs-137 Reference Vial SRV-137-200U		IPL	8/1/03	200.10 uCi 142.146 uCi	18	24	0.000022	PASS

### **Comments and Recommendations**

## Leak test results less than MDA

All above Sealed Sources are not leaking at this time. Removable contamination is less than 0.005 uCi.

Analysis of the WIPE used to conduct a leak test on the Sealed Source was performed by scintillation detection and compared against NIST traceable standard.

Above leak test complies with NRC 10 CFR 35.67(b)(2) and 35.67(c).

Results certified by Jason Smith

Radiation Safety Officer

Test completed by Mid-South Nuclear Physics Services, authorized by Mississippi Radioactive Materials License MS-973-01

Mid South Nuclear Physics Services LLC



# Radioactive Material License

Pursuant to the Mississippi Radiation Protection Law and Mississippi State Department of Health Regulations for Control of Radiation, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess and transfer radioactive material listed below; and to use such radioactive material for the purpose(s) and at the place(s) designated below. This license is subject to all applicable rules and regulations of the State Department of Health and orders of the Division of Radiological Health, now or hereafter in effect and to any condition specified below.

Name     Address	Licensee  Mid-South Nuclear  LLC  P.O. Box 446  Hernando, Mississipp		3. License Number MS-973-01  4. Expiration Date March 1, 2020			
(Element	ve Material and Mass Number) chnetium-99m	6. Chemical and/or F		Maximum Radioactivity and/or quantity of material which licensee may possess at any one time.      A. 300 millicuries		
				ng of shielding integrity.		
DateA	November 13, 201  Amendment No. 1  Il Previous Amendments A	1	byDiv	vision of Radiological Health lackson, Mississippi 39215		

#### RADIOACTIVE MATERIAL LICENSE

#### Supplementary Sheet

Page 2 of 4 pages

License Number MS-973-01

***************************************				Amen	dment No. 11
<b>5.</b>		oactive Material 6. nent and Mass ber)	Chemical and/or Physical Form	7.	Maximum Radioactivity and/or quantity of material which licensee may possess at any one time.
	В.	Any radioactive material meeting the requirements of Rule 1.7.28 of the Regulations for Control of Radiation in Mississippi.	B. Any sealed source		B. As necessary for uses authorized in Item 8.B. Total activity not to exceed 20 millicuries.
	C.	Any radioactive material with Atomic Numbers 3 through 83.	C. Leak test samples		C. See item 8.C.  Total possession not to
					exceed 320 millicuries.

### 8. Authorized Use (continued)

C. The licensee is authorized to perform tests for leakage and/or contamination upon sealed sources containing gamma emitting radioactive material upon devices which contain sealed sources. This license authorizes possession of radioactive material collected as a result of these tests. Such waste material will be disposed of as stated in application and attachments received January 7, 2013.

### CONDITIONS

- 9. Licensed material shall be stored and used at the licensee's facility located at 203 Malone Road, Hernando, Mississippi.
- 10. The Radiation Safety Officer for the activities authorized by this license is Jason Smith.
- 11. Licensed material shall be used by, and in the physical presence of, James B. Smith, Jason B. Smith, Valarie Whitehead, Eric D. Hooper, and/or Brent Robinson.
- 12. Analysis of leak test samples shall be performed by the RSO/AU of Mid-South Nuclear Physics Services, LLC.
- 13. The licensee shall comply with the provisions of the Mississippi State Department of Health Regulations for Control of Radiation, Subchapter 1, "General Provisions," Subchapter 3, "Licensing of Radioactive Material," Subchapter 4, "Standards for Protection Against Radiation," Subchapter 7, "Use of Radionuclides in the Healing Arts," Subchapter 10, "Notices, Instructions and Reports to Workers; Inspections," and Subchapter 13, "Transportation of Radioactive Material."

#### RADIOACTIVE MATERIAL LICENSE

#### Supplementary Sheet

Page 3 of 4 pages

License Number MS-973-01

Amendment No. 11

### CONDITIONS (continued)

- 14. The licensee shall test each sealed source for leakage or contamination at intervals not to exceed six (6) months or at alternative intervals approved by the Agency, an Agreement State, or the U. S. Nuclear Regulatory Commission, as required by Rule 1.4.16 of the Mississippi State Department of Health Regulations for Control of Radiation.
- 15. Tests for leakage and/or contamination shall be capable of detecting 0.005 microcurie of contamination on the sample. The customer shall be furnished a report of leak test results in microcuries.
- 16. If the test reveals the presence of removable contamination equivalent to or greater than 0.005 microcurie, the customer of the licensee shall be informed of the Mississippi State Department of Health's requirements as follows:

The licensee shall immediately withdraw the sealed source from use and shall cause it to be decontaminated and repaired or to be disposed of in accordance with the Mississippi State Department of Health Regulations for Control of Radiation. A report shall be filed within five (5) days of the test with the Division of Radiological Health, describing the equipment involved, the test results, and the corrective action taken.

- 17. Tests for leakage and/or contamination of sealed sources shall be performed at customer's sites within the state of Mississippi as designated by the customer's authority for possession and use of radioactive material.
- 18. The licensee is authorized to utilize at customer's sites any sealed source designated for calibration and/or reference for the performance of dose calibrator calibrations in accordance with procedures received January 7, 2013.
- 19. Sealed sources shall not be moved from their shielded devices for the purpose of accomplishing tests authorized by the license. Tests for leakage and/or contamination of sealed sources in their devices shall be made on appropriate exterior accessible surfaces with the device in the "off" or shielded position.
- The licensee shall maintain, for inspection by the Agency, appropriate records for the verification of reported leak test results.
- 21. Sealed sources containing licensed material shall not be opened.

#### RADIOACTIVE MATERIAL LICENSE

#### Supplementary Sheet

Page 4 of 4 pages

License Number MS-973-01

Amendment No. 11

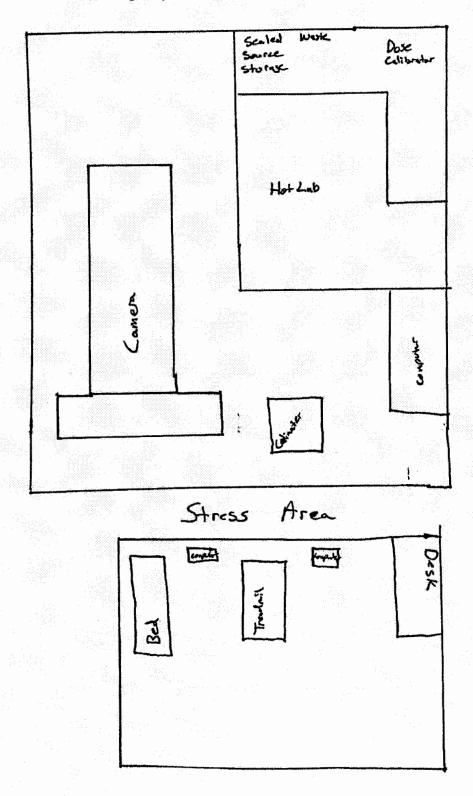
### CONDITIONS (continued)

- 22. The licensee shall conduct a physical inventory at intervals not to exceed three (3) months to account for all sources used for calibration and/or reference and all sealed sources received and possessed under the license. The inventory shall contain the model number of each source, and the serial number if one has been assigned, the identity of each source radionuclide and its nominal activity, the location of each source, the date of the inventory, and the name of the individual who performed the inventory. The records of inventories shall be maintained for three (3) years from the date of the inventory for inspection by the Division of Radiological Health.
- Individuals who work in or frequent any portion of a restricted area shall receive instructions as specified in Rule 1.10.3 of the Mississippi State Department of Health Regulations for Control of Radiation at
- 24. in addition to the possession limits in Item 7., the licensee shall further restrict the possession for licensed material to quantities below the minimum limit specified in Rule 1.3.9(7)(d) of the Mississippi State Department of Health Regulations for Control of Radiation for establishing decommissioning financial assurance.
- 25. If, in an emergency, it becomes necessary for the licensee to evacuate the facility at which radioactive material is stored, it shall be the responsibility of the licensee to notify the Division of Radiological Health prior to leaving. The licensee shall submit a detailed description of how the storage location was secured prior to leaving and the licensee's temporary address, phone number(s) or other means of being contacted. This information shall be kept updated until the licensee is able to return to the licensed storage location.
- 26. Except as specifically provided otherwise by this license, the licensee shall possess and use licensed material described in Item Nos. 5, 6, and 7, of this license in accordance with statements, representations, and procedures contained in the documents, including any enclosures, listed below. The Mississippi State Department of Health Regulations for Control of Radiation shall govern the licensee's statements in application or letters, unless the statements are more restrictive than the regulations.

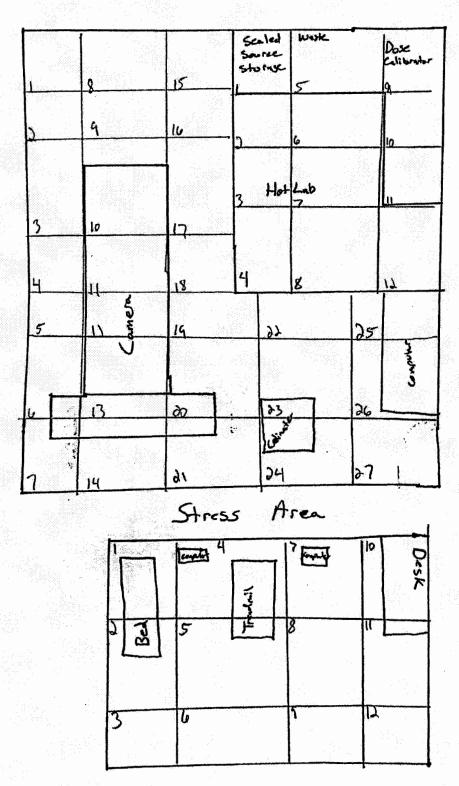
Application dated January 7, 2013, signed by James Smith,
Letter dated October 30, 2015, signed by Jim Smith,
Letter dated September 27, 2017, signed by James Smith, and
Letters received October 26, 2017, signed by Jason Smith and James Smith, respectively.

Tun River DM Floor Plan

Imasins/Hot Lab



Imasins/Hot Lab



P.O. Box 446 203 Malone Road South Hernando, MS 38632 901.488-1537 fax: 662.429.2132

# SEALED SOURCE TRANSFER

June 4, 2018

The following sealed sources have been received and checked into inventory.

Nuclide	Туре	Serial Number	Activity	Calibration Date	Current Activity	Leak Test	Leak test Results
Cs-137	Vial	319-107-10	205.50 uCi	10-26-1977	80.508 uCi	5-21-18	< 0.005 uCi
Cs-137	Vial	988-39-5	200.1 uCi	8-1-2003	142.146 uCi	5-21-18	< 0.005 uCi
Co-57	Flood	1813-028	10.00 mCi	7-1-2015	0.679 mCi	5-21-18	< 0.005 uCi
Co-57	Flood	2003-120	10.00 mCi	3-1-2018	8.134 mCi	5-21-18	< 0.005 uCi
Ba-133	Vial	1218-21-0021	247.1 uCi	2-1-2007	117.219 uCi	5-21-18	< 0.005 uCi

Date of last leak test: May 21, 2018; Removable contamination less than 0.005uCi.

Leak test performed by Mid-South Nuclear Physics Services, LLC,

RAML: MS-973-01

Jason Smith

Mid-South Nuclear Physics Services, LLC

P.O. Box 446 203 Malone Road South Hernando, MS 38632 901.488-1537 fax: 662.429.2132

## **SEALED SOURCE**

### RADIOACTIVE PACKAGE RECEIPT DATA

Sealed Source data:

Sealed Source data.			
Nuclide	Cs-137	Cs-137	Ba-133
Nuclide Half Life	30.17 years	30.17 years	10.66 years
Calibration date	10-26-1977	8-1-2003	2-1-2007
Activity at Calibration	205.50 uCi	200.1 uCi	247.1 uCi
Current Activity	80.508 uCi	142.15 uCi	117.22 uCi
Туре	Vial	Vial	Vial
Serial Number	319-107-10	988-39-5	1218-21- 0021

Date:	6-4-2018	Time	0830	
_				

### RADIOACTIVE PACKAGE RECEIVING SURVEYS

Package label: Yellow II (Limited Quantity, White I, Yellow II) Package condition: GOOD

GM meter Surveys:

Instrument: Ludlum 14C

 Background
 0.2 mR/hr

 Surface
 0.7. mR/hr

 1 meter
 0.3 mR/hr

Wipe Analysis:

Instrument: Captus 3000

Background	62 cpm
Wipe	48 cpm
Wipe	268 dpm

Check in Performed by:

P.O. Box 446 203 Malone Road South Hernando, MS 38632 901.488-1537 fax: 662.429.2132

# **SEALED SOURCE**

### RADIOACTIVE PACKAGE RECEIPT DATA

Sealed Source data:

Nuclide	Co-57	Co-57
Nuclide Half Life	270 days	270 days
Calibration date	7-1-2015	3-1-2018
Activity at Calibration	10.00 mCi	10.00 mCi
Current Activity	0.679 mCi	8.134 mCi
Туре	Flood	Flood
Serial Number	1813-028	2003-120

Date:	6-4-2018	Time 0830	

### RADIOACTIVE PACKAGE RECEIVING SURVEYS

Package label: Yellow II (Limited Quantity, White I, Yellow II) Package condition: GOOD

GM meter Surveys:

Instrument: Ludlum 14C

Background0.2 mR/hrSurface0.5 mR/hr1 meter0.2 mR/hr

Wipe Analysis:

Instrument: Captus 3000

Background	62 cpm
Wipe	42 cpm
Wipe	256 dpm

Check in Performed by;

## Pavon, Sandy

From:

Strohmeyer, Daniel

Sent:

Tuesday, July 03, 2018 5:14 AM

To:

Pavon, Sandy; Sandrik, Lauren; Song, Taehoon; Tomczak, Tammy

Subject:

CN 608625

**Attachments:** 

CN608625 Termination.pdf

Good Morning,

Please add to ADAMS for CN 608625 Kennett HMA.

Thank you,

Daniel C. Strohmeyer, CHP

Health Physicist - Reviewer Materials Licensing Branch U.S. NRC, Region III 630.829.9689 (O) 630.515.1078 (F)